

CHAPTER 3

WATER RECYCLING ~~RECLAMATION~~ CRITERIA

ARTICLE 1

DEFINITIONS

~~60301. Definitions.~~

~~—— (a) Reclaimed Water. Reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.~~

~~—— (b) Reclamation Plant. Reclamation plant means an arrangement of devices, structures, equipment, processes and controls which produce a reclaimed water suitable for the intended reuse.~~

~~—— (c) Regulatory Agency. Regulatory agency means the California Regional Water Quality Control Board in whose jurisdiction the reclamation plant is located.~~

~~—— (d) Direct Beneficial Use. Direct beneficial use means the use of reclaimed water which has been transported from the point of production to the point of use without an intervening discharge to waters of the state.~~

~~—— (e) Food Crops. Food crops mean any crops intended for human consumption.~~

~~—— (f) Spray Irrigation. Spray irrigation means application of reclaimed water to crops by spraying it from orifices in piping.~~

~~—— (g) Surface Irrigation. Surface irrigation means application of reclaimed water by means other than spraying such~~

~~that contact between the edible portion of any food crop and reclaimed water is prevented.~~

~~—— (h) Restricted Recreational Impoundment. Restricted recreational impoundment is a body of reclaimed water in which recreation is limited to fishing, boating, and other non body contact water recreation activities.~~

~~—— (i) Nonrestricted Recreational Impoundment. A nonrestricted recreational impoundment is an impoundment of reclaimed water in which no limitations are imposed on body contact water sport activities.~~

~~—— (j) Landscape Impoundment. A landscape impoundment is a body of reclaimed water which is used for aesthetic enjoyment or which otherwise serves a function not intended to include public contact.~~

~~—— (k) Approved Laboratory Methods. Approved laboratory methods are those specified in the latest edition of "Standard Methods for the Examination of Water and Wastewater" prepared and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation and which are conducted in laboratories approved by the State Department of Health.~~

~~—— (l) Unit Process. Unit process means an individual stage in the wastewater treatment sequence which performs a major single treatment operation.~~

~~—— (m) Primary Effluent. Primary effluent is the effluent from a wastewater treatment process which provides removal of sewage solids so that it contains not more than 0.5 milliliters per liter per hour of settleable solids as determined by an approved laboratory method.~~

~~—— (n) Oxidized Wastewater. Oxidized wastewater means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.~~

~~—— (o) Biological Treatment. Biological treatment means methods of wastewater treatment in which bacterial or biochemical action is intensified as a means of producing an oxidized wastewater.~~

~~—— (p) Secondary Sedimentation. Secondary sedimentation means the removal by gravity of settleable solids remaining in the effluent after the biological treatment process.~~

~~—— (q) Coagulated Wastewater. Coagulated wastewater means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated by the addition of suitable floe-forming chemicals or by an equally effective method.~~

~~—— (r) Filtered Wastewater. Filtered wastewater means an oxidized, coagulated, clarified wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity as determined by an approved laboratory method does not exceed an average operating turbidity of 2 turbidity units and does not exceed 5 turbidity units more than 5 percent of the time during any 24 hour period.~~

~~—— (s) Disinfected Wastewater. Disinfected wastewater means wastewater in which the pathogenic organisms have been destroyed by chemical, physical or biological means.~~

~~—— (t) Multiple Units. Multiple units means two or more units of a treatment process which operate in parallel and serve the same function.~~

~~—— (u) Standby Unit Process. A standby unit process is an alternate unit process or an equivalent alternative process which is maintained in operable condition and which is capable of providing comparable treatment for the entire design flow of the unit for which it is a substitute.~~

~~—— (v) Power Source. Power source means a source of supplying energy to operate unit processes.~~

~~—— (w) Standby Power Source. Standby power source means an automatically actuated self starting alternate energy source maintained in immediately operable condition and of sufficient capacity to provide necessary service during failure of the normal power supply.~~

~~—— (x) Standby Replacement Equipment. Standby replacement equipment means reserve parts and equipment to replace broken-down or worn out units which can be placed in operation within a 24 hour period.~~

~~(y) Standby Chlorinator. A standby chlorinator means a duplicate chlorinator for reclamation plants having one chlorinator and a duplicate of the largest unit for plants having multiple chlorinator units.~~

~~(z) Multiple Point Chlorination. Multiple point chlorination means that chlorine will be applied simultaneously at the reclamation plant and at subsequent chlorination stations located at the use area and/or some intermediate point. It does not include chlorine application for odor control purposes.~~

~~(aa) Alarm. Alarm means an instrument or device which continuously monitors a specific function or a treatment process and automatically gives warning of an unsafe or undesirable condition by means of visual and audible signals.~~

~~(bb) Person. Person also includes any private entity, city, county, district, the State or any department or agency thereof.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.100. Approved Laboratory.

"Approved laboratory" means a laboratory that has been certified by the Department to perform microbiological analyses pursuant to section 116390, Health and Safety Code.

Authority cited : Section 13521, Water Code

Reference : Sections 13520 and 13521, Water Code

Section 60301.160. Coagulated Wastewater.

"Coagulated wastewater" means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.170. Conventional Treatment.

"Conventional treatment" means a treatment chain that utilizes a sedimentation unit process between the coagulation and filtration processes and produces an effluent that meets the definition for disinfected tertiary recycled water.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.200. Direct Beneficial Use.

"Direct beneficial use" means the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.220. Disinfected Secondary-2.2 Recycled Water.

"Disinfected secondary-2.2 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.225. Disinfected Secondary-23 Recycled Water.

"Disinfected secondary-23 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.230. Disinfected Tertiary Recycled Water.

"Disinfected tertiary recycled water" means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) A chlorine disinfection process following conventional treatment or its equivalent that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.240. Drift.

"Drift" means the amount of water that escapes to the atmosphere as water droplets from a cooling system.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.245. Drift Eliminator.

"Drift eliminator" means a feature of a cooling system that reduces to a minimum the generation of drift from the system.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.250. Dual Plumbed System.

"Dual plumbed system" or "dual plumbed" means a system that utilizes separate piping systems for recycled water and potable water within a facility and where the recycled water is used for either of the following purposes:

- (a) To serve plumbing outlets used by the public within a building or
- (b) Landscape irrigation at individual residences.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.300. F-Specific Bacteriophage MS-2.

"F-specific bacteriophage MS-2" means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC 15597B1) and is grown on lawns of E. coli (ATCC 15597).

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.310. Facility.

"Facility" means any type of building or structure, or a defined area of specific public use that receives water for domestic use from a public water system as defined in section 116275 of the Health and Safety Code.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.320. Filtered Wastewater.

"Filtered wastewater" means an oxidized wastewater that meets the criteria in subsection (a) or (b):

(a) Has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following:

(1) At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in traveling bridge automatic backwash filters; and

(2) So that the turbidity of the filtered wastewater does not exceed any of the following:

(A) A daily average of 2 NTU;

(B) 5 NTU more than 5 percent of the time within a 24-hour period; and

(C) 10 NTU at any time.

(b) Has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:

(1) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(2) 0.5 NTU at any time.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.330. Food Crops.

"Food crops" means any crops intended for human consumption.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.400. Hose Bibb.

"Hose bibb" means an outdoor faucet or similar device to which a common garden hose can be readily attached.

Authority cited: Section 1351, Water Code

Reference: Sections 1350 and 1351, Water Code

Section 60301.550. Landscape Impoundment.

"Landscape impoundment" means an impoundment of recycled water which is stored or used for aesthetic enjoyment or landscape irrigation, or which otherwise serves a similar function and is not intended to include public contact.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.600. Modal Contact Time.

"Modal contact time" means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.620. Nonrestricted Recreational Impoundment.

"Nonrestricted recreational impoundment" means an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.630. NTU.

"NTU" (Nephelometric turbidity unit) means a measurement of turbidity as determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light as measured by method 2130 B. in Standard Methods for the Examination of Water and Wastewater, 19th ed.; Eaton, A. D., Clesceri, L. S., and Greenberg, A. E., Eds; American Public Health Association: Washington, DC, 1995; p. 2-8.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.650. Oxidized Wastewater.

"Oxidized wastewater" means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.700. Recycled Water Agency.

"Recycled water agency" means the public water system, or a publicly owned or operated recycled water system, proposing to deliver recycled water to a facility.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.710. Recycling Plant.

"Recycling plant" means an arrangement of devices, structures, equipment, processes and controls which produce recycled water.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.740. Regulatory Agency.

"Regulatory agency" means the California Regional Water Quality Control Board in whose jurisdiction the recycling plant is located.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.750. Restricted Access Golf Course.

"Restricted access golf course" means a golf course where public access is controlled so that areas irrigated with recycled water cannot be used as if they were part of a park, playground, or school yard and where irrigation is conducted only in areas and during periods when the golf course is not being used by golfers.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.760. Restricted Recreational Impoundment.

"Restricted recreational impoundment" means an impoundment of recycled water in which recreation is limited to fishing, boating, and other non-body-contact water recreational activities.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.800. Spray Irrigation.

"Spray irrigation" means the application of recycled water to crops to maintain vegetation or support growth of vegetation by applying it from sprinklers or orifices in piping. Spray irrigation does not include drip irrigation.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.830. Standby Unit Process.

"Standby unit process" means an alternate unit process or an equivalent alternative process which is maintained in operable condition and which is capable of providing comparable treatment of the actual flow through the unit for which it is a substitute.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.900. Undisinfected Secondary Recycled Water.

"Undisinfected secondary recycled water" means oxidized wastewater.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60301.920. Use Area.

"Use area" means an area of recycled water use with defined boundaries. A use area may contain one or more facilities.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~ARTICLE 2. IRRIGATION OF FOOD CROPS.~~**~~Section 60303. Spray Irrigation.~~**

~~Reclaimed water used for the spray irrigation of food crops shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within a 30 day period. The median value shall be determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Section 60305 Surface Irrigation.~~

~~(a) Reclaimed water used for surface irrigation of food crops shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

~~(b) Orchards and vineyards may be surface irrigated with reclaimed water that has the quality at least equivalent to that of primary effluent provided that no fruit is harvested that has come in contact with the irrigating water or the ground.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Section 60307. Exceptions.~~

~~Exceptions to the quality requirements for reclaimed water used for irrigation of food crops may be considered by the State Department of Health on an individual case basis where the reclaimed water is to be used to irrigate a food crop which must undergo extensive commercial, physical or chemical processing sufficient to destroy pathogenic agents before it is suitable for human consumption.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Article 3. Irrigation of Fodder, Fiber, and Seed Crops.~~

~~Section 60309. Fodder, Fiber, and Seed Crops.~~

~~Reclaimed water used for the surface or spray irrigation of fodder, fiber, and seed crops shall have a level of quality no less than that of primary effluent.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Section 60311. Pasture for Milking Animals.~~

~~Reclaimed water used for the irrigation of pasture to which milking cows or goats have access shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters as determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~ARTICLE 4. Landscape Irrigation.~~**~~Section 60313. Landscape Irrigation.~~**

~~(a) Reclaimed water used for the irrigation of golf courses, cemeteries, freeway landscapes, and landscapes in other areas where the public has similar access or exposure shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if the median number of coliform organisms in the effluent does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed, and the number of coliform organisms does not exceed 240 per 100 milliliters in any two consecutive samples.~~

~~(b) Reclaimed water used for the irrigation of parks, playgrounds, schoolyards, and other areas where the public has similar access or exposure shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater or a wastewater treated by a sequence of unit processes that will assure an equivalent degree of treatment and reliability. The wastewater shall be considered adequately disinfected if the median number of coliform organisms in the effluent does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed, and the number of coliform organisms does not exceed 23 per 100 milliliters in any sample.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~ARTICLE 5. Recreational Impoundments.~~

~~Section 60315. Nonrestricted Recreational Impoundment.~~

~~Reclaimed water used as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters and the number of coliform organisms does not exceed 23 per 100 milliliters in more than one sample within any 30 day period. The median value shall be determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Section 60317. Restricted Recreational Impoundment.~~

~~Reclaimed water used as a source of supply in a restricted recreational impoundment shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

~~Section 60319. Landscape Impoundment.~~

~~Reclaimed water used as a source of supply in a landscape impoundment shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Article 2. SOURCES OF RECYCLED WATER.

Section 60302. Source Specifications.

The requirements in this chapter shall only apply to recycled water from sources that contain domestic waste, in whole or in part.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

ARTICLE 3. USES OF RECYCLED WATER.

Section 60303. Exceptions.

The requirements set forth in this chapter shall not apply to the use of recycled water onsite at a water recycling plant, or wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60304. Use of Recycled Water for Irrigation.

(a) Recycled water used for the irrigation of the following shall be a disinfected tertiary recycled water except that coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU at any time:

- (1) Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop,
- (2) Parks and playgrounds,
- (3) School yards,
- (4) Residential landscaping,
- (5) Unrestricted access golf courses, and
- (6) Any other irrigation use not specified in this section and not prohibited by other sections of the California Code of Regulations.

(b) Recycled water used for the irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall be at least disinfected secondary-2.2 recycled water.

(c) Recycled water used for the irrigation of the following shall be at least disinfected secondary-23 recycled water:

- (1) Cemeteries,
- (2) Freeway landscaping,
- (3) Restricted access golf courses,
- (4) Ornamental nursery stock and sod farms where access by the general public is not restricted,
- (5) Pasture for animals producing milk for human consumption, and
- (6) Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or school yard

(d) Recycled wastewater used for the irrigation of the following shall be at least undisinfected secondary recycled water:

- (1) Orchards where the recycled water does not come into contact with the edible portion of the crop,
- (2) Vineyards where the recycled water does not come into contact with the edible portion of the crop,
- (3) Non food-bearing trees (Christmas tree farms are included in this category provided no irrigation with recycled water occurs for a period of 14

days prior to harvesting or allowing access by the general public),

(4) Fodder and fiber crops and pasture for animals not producing milk for human consumption,

(5) Seed crops not eaten by humans,

(6) Food crops that must undergo commercial pathogen-destroying processing before being consumed by humans, and

(7) Ornamental nursery stock and sod farms provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.

(e) No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops eaten raw by humans unless the recycled water complies with subsection (a).

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60305. Use of Recycled Water For Impoundments.

(a) Except as provided in subsection (b), recycled water used as a source of water supply for nonrestricted recreational impoundments shall be disinfected tertiary recycled water that has been subjected to conventional treatment.

(b) Disinfected tertiary recycled water that has not received conventional treatment may be used for nonrestricted recreational impoundments provided the recycled water is monitored for the presence of pathogenic organisms in accordance with the following:

- (1) During the first 12 months of operation and use the recycled water shall be sampled and analyzed monthly for *Giardia*, enteric viruses, and *Cryptosporidium*. Following the first 12 months of use, the recycled water shall be sampled and analyzed quarterly for *Giardia*, enteric viruses, and *Cryptosporidium*. The ongoing monitoring may be discontinued after the first two years of operation with the approval of the department. This monitoring shall be in addition to the monitoring set forth in section 60321.
- (2) The samples shall be taken at a point following disinfection and prior to the point where the recycled water enters the use impoundment. The samples shall be analyzed by an approved laboratory and the results submitted quarterly to the regulatory agency.

(c) The total coliform bacteria concentrations in recycled water used for nonrestricted recreational impoundments, measured

at a point between the disinfection process and the point of entry to the use impoundment, shall comply with the criteria specified in section 60301.230 (b) for disinfected tertiary recycled water.

(d) Recycled water used as a source of supply for restricted recreational impoundments and for any publicly accessible impoundments at fish hatcheries shall be at least disinfected secondary-2.2 recycled water.

(e) Recycled water used as a source of supply for landscape impoundments that do not utilize decorative fountains shall be at least disinfected secondary-23 recycled water.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60306. Use of Recycled Water for Cooling.

(a) Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water.

(b) Use of recycled water for industrial or commercial cooling or air conditioning that does not involve the use of a cooling tower, evaporative condenser, spraying, or any mechanism that creates a mist shall be at least disinfected secondary-23 recycled water.

(c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following:

(1) A drift eliminator shall be used whenever the cooling system is in operation.

(2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of *Legionella* and other micro-organisms.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60307. Use of Recycled Water for Other Purposes.

(a) Recycled water used for the following shall be disinfected tertiary recycled water except that coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU at any time:

- (1) Flushing toilets and urinals,
- (2) Priming drain traps,
- (3) Industrial process water that may come into contact with workers,
- (4) Structural fire fighting,
- (5) Decorative fountains,
- (6) Commercial laundries,
- (7) Consolidation of backfill around potable water pipelines,
- (8) Artificial snow making for commercial outdoor use,
- (9) Commercial car washes where the washing is not done by hand and where the general public is excluded from the washing process, and

(b) Recycled water used for the following uses shall be at least disinfected secondary-23 recycled water:

- (1) Industrial boiler feed,
- (2) Nonstructural fire fighting,
- (3) Backfill consolidation around nonpotable piping,
- (4) Soil compaction,
- (5) Mixing concrete,
- (6) Dust control on roads and streets,
- (7) Cleaning roads, sidewalks and outdoor work areas,
and

(c) Recycled water used for flushing sanitary sewers shall be at least undisinfectd secondary recycled water.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

ARTICLE 4. USE AREA REQUIREMENTS.**Section 60310. Use Area Requirements.**

(a) No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

- (1) A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.
- (2) The well contains an annular seal that extends from the surface into the aquitard.
- (3) The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
- (4) The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
- (5) The owner of the well approves of the elimination of the buffer zone requirement.

(b) No impoundment of disinfected tertiary recycled water shall occur within 100 feet of any domestic water supply well.

(c) No irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall take place within 100 feet of any domestic water supply well.

(d) No irrigation with, or impoundment of, undisinfected secondary recycled water shall take place within 150 feet of any domestic water supply well.

(e) Any use of recycled water shall comply with the following:

(1) Any irrigation runoff shall be confined to the recycled water use area unless otherwise authorized by the regulatory agency.

(2) Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

(3) Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

(f) No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

(g) All use areas where recycled water is used that are accessible to the public shall be posted with conspicuous signs, in a size no less than 4 inches high by 8 inches wide, that include the following wording : "RECYCLED WATER - DO NOT DRINK". Each sign shall display an international symbol similar to that shown in Figure 1.

(h) Except as allowed under section 7604 of title 17, California Code of Regulations, no physical connection shall be

made or allowed to exist between any recycled water system and any separate system conveying potable water.

(i) The recycled water piping system shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the recycled water piping system.

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

ARTICLE 5. DUAL PLUMBED RECYCLED WATER SYSTEMS.

Section 60313. General Requirements.

(a) No person other than a recycled water agency shall deliver recycled water to a dual-plumbed facility.

(b) No recycled water agency shall deliver recycled water for any internal use to any individually-owned residential units including free-standing structures, multiplexes, or condominiums.

(c) No recycled water agency shall deliver recycled water for internal use except for fire suppression systems, to any facility that produces or processes food products or beverages. This exclusion does not apply to a cafeteria or snack bar in a facility whose primary function does not involve the production or processing of foods or beverages.

(d) No recycled water agency shall deliver recycled water to a facility using a dual plumbed system unless the report required pursuant to section 13522.5 of the Water Code, and which meets the requirements set forth in section 60314, has been submitted to the regulatory agency.

Authority cited: Section 13521 Water Code

Reference: Sections 13521, 13522.5, 13523.1, 13553 and
13554 Water Code

Section 60314. Report Submittal.

(a) For dual-plumbed recycled water systems, the report submitted pursuant to section 13522.5 of the Water Code shall contain the following information in addition to the information required by section 60323:

(1) A detailed description of the intended use area identifying the following:

- (A) The number, location, and type of facilities within the use area proposing to use dual plumbed systems,
- (B) The average number of persons estimated to be served by each facility on a daily basis,
- (C) The specific boundaries of the proposed use area including a map showing the location of each facility to be served,
- (D) The person or persons responsible for operation of the dual plumbed system at each facility, and
- (E) The specific use to be made of the recycled water at each facility.

(2) Plans and specifications describing the following:

- (A) Proposed piping system to be used,
- (B) Pipe locations of both the recycled and potable systems,

(C) Type and location of the outlets and plumbing fixtures that will be accessible to the public, and

(D) The methods and devices to be used to prevent backflow of recycled water into the public water system.

(3) The methods to be used by the recycled water agency to assure that the installation and operation of the dual plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye or other test methods to be used to test the system every four years.

(b) A master plan report that covers more than one facility or use site may be submitted provided the report includes the information required by this section. Plans and specifications for individual facilities covered by the report may be submitted at any time prior to the delivery of recycled water to the facility.

Authority cited: Sections 13521 and 13522.5 Water Code and 4023.3 Health and Safety Code

Reference: Sections 13521, 13522.5, 13523.1, 13553 and 13554 Water Code

Section 60315. Design Requirements.

The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602 (a) and 7603 (a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.

Authority cited: Sections 13521 Water Code and 4023.3 Health and Safety Code

Reference: Sections 13521, 13523.1, 13553 and 13554 Water Code

Section 60316. Operation Requirements.

(a) Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the dual plumbed system within each facility and use area shall be inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the report submitted pursuant to section 60314. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association. A written report documenting the result of the inspection and testing for the prior year shall be submitted to the department within 30 days following completion of the testing.

(b)The recycled water agency shall notify the department of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.

(c) Any backflow prevention device installed on the dual-plumbed recycled water system to protect the public water system shall be inspected and maintained in accordance with section 7605 of Title 17, California Code of Regulations.

Authority cited: Sections 13521 Water Code and 4023.3 Health and Safety Code

Reference: Sections 13521, 13553 and 13554 Water Code

ARTICLE 6. Sampling and Analysis.**~~Section 60321. Sampling and Analysis.~~**

~~—— (a) Samples for settleable solids and coliform bacteria, where required, shall be collected at least daily and at a time when wastewater characteristics are most demanding on the treatment facilities and disinfection procedures. Turbidity analysis, where required, shall be performed by a continuous recording turbidimeter.~~

~~—— (b) For uses requiring a level of quality no greater than that of primary effluent, samples shall be analyzed by an approved laboratory method of settleable solids.~~

~~—— (c) For uses requiring an adequately disinfected, oxidized wastewater, samples shall be analyzed by an approved laboratory method for coliform bacteria content.~~

~~—— (d) For uses requiring an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater, samples shall be analyzed by approved laboratory methods for turbidity and coliform bacteria content.~~

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

Section 60321. Sampling and Analysis.

(a) Disinfected secondary-23, disinfected secondary-2.2, and disinfected tertiary recycled water shall be sampled at least once daily for total coliform bacteria. The samples shall be taken from the disinfected effluent and shall be analyzed by an approved laboratory.

(b) Disinfected tertiary recycled water shall be continuously sampled for turbidity using a continuous turbidity meter and recorder following filtration. Compliance with the daily average operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at four-hour intervals over a 24-hour period. Compliance with turbidity pursuant to section 60301.320(b) shall be determined by averaging the levels of recorded turbidity taken at 1.2-hour intervals over a 24-hour period. The results of the daily average turbidity determinations shall be reported monthly to the regulatory agency.

(c) The producer or supplier of the recycled water shall conduct the sampling required in subsections (a) and (b).

Authority cited: Section 13521, Water Code

Reference: Sections 13520 and 13521, Water Code

TITLE 17
DIVISION 1
CHAPTER 5
Group 4

ARTICLE 1.

Section 7604. Type of Protection Required.

The type of protection that shall be provided to prevent backflow into the public water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: Double check Valve Assembly--(DC), Reduced Pressure Principle Backflow Prevention Device--(RP) and an Air gap Separation--(AG). The water user may choose a higher level of protection than required by the water supplier. The minimum types of backflow protection required to protect the public water supply, at the water user's connection to premises with various degrees of hazard, are given in Table 1. Situations not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

TABLE 1
TYPE OF BACKFLOW PROTECTION REQUIRED

<i>Degree of Hazard</i>	<i>Minimum Type of Backflow Prevention</i>
(a) Sewage and Hazardous Substances	

~~(1) Premises where the public water supply is~~

~~used to supplement the reclaimed water supply.~~ ~~AG~~

~~(2)~~ (1) Premises where there are waste water pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier. AG

~~(3) Premises where reclaimed water is used and there is no interconnection with the potable water system. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.~~ AG

~~(4)~~ (2) Premises where hazardous substances are handled in any manner in which the substances may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier. AG

~~(5)~~ (3) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected. RP

(b) Auxiliary Water Supplies

(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. A RP or DC may be provided in lieu of an AG if approved by the health agency and water supplier. AG

- (2) Premises where there is an unapproved auxiliary water supply and there are no interconnections with the public water system. A DC may be provided in lieu of a RP if approved by the health agency and water supplier. RP

(c) Recycled Water

- (1) Premises where the public water system is used to supplement the recycled water supply. AG
- (2) Premises where recycled water is used, other than as allowed in paragraph (3), and there is no interconnection with the potable water system. RP
- (3) Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to sections 60313 through 60316 unless the recycled water supplier obtains approval of the local public water supplier, or the Department if the water supplier is also the supplier of the recycled water, to utilize an alternative backflow protection plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a). DC

~~—(c)~~(d) Fire Protection Systems

- (1) Premises where the fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected). DC

- (2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. A RP may be provided in lieu of an AG if approved by the health agency and water supplier. AG
- (3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used. DC
- (4) Buildings where the fire system is supplied from the public water system and where recycled water is used in a separate piping system within the same building. DC
- ~~(d)~~ (e) Dockside Watering Points and Marine Facilities
- (1) Pier hydrants for supplying water to vessels for any purpose. RP
- (2) Premises where there are marine facilities. RP
- ~~(f)~~ (f) Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that they do not exist. RP
- ~~(g)~~ (g) Premises where there is a repeated history of cross-connections being established or re-established. RP

Authority cited: ~~Section 208 and 4026~~ 116375, Health and Safety Code and Section 13521 Water Code

Reference: Section ~~4026~~ 116375, Health and Safety Code and
Section 13520, 13521 and 13554 (a) (3) Water
Code